

Notice of Allowability

Application No.

10/517,929

Examiner

Megann E. Vaughn

Applicant(s)

LEUSSLER ET AL.

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 6/29/2006.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **Thomas Kocovsky on 9/1/2006**.

2. The application has been amended as follows:

A) Replace claim 1 of the 6/29/2006 amendment response with the following examiner amended claim 1:

---Claim 1 (currently amended) An MR device for MR imaging, which device includes:

a main field magnet for generating a steady main magnetic field;

a gradient coil system with a plurality of gradient coils for generating magnetic gradient fields;

an RF coil system for transmitting and/or receiving RF signals, which coil system includes at least two RF coil arrays which are integrated in one coil former and have been optimized for different applications, each RF coil array comprising at least two RF coils decoupled from one another;

at least one of the RF coil arrays is optimized for parallel imaging;

a transmit/receive unit for driving the RF coil arrays and for receiving MR signals from the RF coil arrays, there being provided a plurality of channels, notably a number

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of channels which corresponds to the number of RF coils of the RF coil array comprising the largest number of RF coils;

a control unit for controlling the MR imaging, the control unit being arranged to switch over the RF coil arrays for temporally separate use of the individual RF coil arrays during the MR data acquisition; and

a processing unit for processing received MR signals.

B) Replace claim 10 of the 6/29/2006 amendment response with the following examiner amended claim 10:

---Claim 10 (currently amended) An RF coil system for an MR device for the transmission and/or reception of RF signals for MR imaging, which MR device includes

a main field magnet for generating a steady main magnetic field;

a gradient coil system with a plurality of gradient coils for generating magnetic gradient fields;

a transmit/receive unit with a plurality of channels for transmitting and receiving MR signals;

a control unit for controlling the MR imaging, the control unit being arranged to switch the RF coil arrays for temporally separate use of the individual RF coil arrays during the MR data acquisition; and

a processing unit for processing received MR signals, the RF coil system comprising:

at least two RF coil arrays which are integrated in one coil former and have been optimized for different applications, **at least one of the RF coil arrays includes a plurality of RF coils which are optimized to receive signals synergistically**, each RF coil array comprising at least two RF coils which are decoupled from one another, the transmit/receive unit being provided with a number of channels which corresponds to the number of RF coils of the RF coil array comprising the largest number of RF coils.

C) Replace claim 16 of the 6/29/2006 amendment response with the following examiner amended claim 16:

---Claim 16 (currently amended) The MR device as claimed in claim 10, wherein **at least one** of the RF coil arrays is optimized for parallel imaging, such as SENSE or SMASH.

D) Cancel claim 17

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

Claims 1, 2, 7-9, 11-14 are allowable over the prior art of record because the prior art of record does not teach or disclose an MR device for MR imaging, which device includes at least two RF coil arrays which are integrated in one coil former and have been optimized for different application, each RF coil array comprising at least two RF coils decoupled from one another and at least one of the RF coil arrays is optimized for parallel imaging, in combination with the remaining limitations of the claims.

Claims 3-6 and 15 are allowable over the prior art of record because the prior art of record does not teach or disclose an MR device for MR imaging, which device includes a local RF coil system for transmitting and/or receiving RF signals, which coil system includes at least a first RF coil array that has been optimized for the SENSE method or the SMASH method and a second RF coil array that has been optimized as a coil array for imaging with a method different from the SENSE or Smash methods, in combination with the remaining limitations of the claims.

Claims 10 and 16 are allowable over the prior art of record because the prior art of record does not teach or disclose an RF coil system for an MR device for the transmission and/or reception of RF signal for MR imaging, which MR device includes at least two RF coils which are integrated in one coil former and have been optimized for different applications, at least one of the RF coil arrays includes a plurality of RF coils which are optimized to receive signals synergistically, in combination with the remaining limitations of the claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

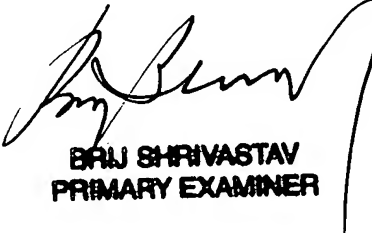
Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Megann E. Vaughn whose telephone number is 571-272-8927. The examiner can normally be reached on 8 am- 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MEV
Patent Examiner Art Unit 2859
9/1/2006


BRIJ SHIVASTAV
PRIMARY EXAMINER